

## ABSTRACT OF THE DISCLOSURE

A WDM optical transmission system with a bi-directional WDM-ADM is disclosed.

The system includes first and second transceivers for multiplexing a multi-channel optical  
5 signal before transmission and for de-multiplexing a received multi-channel optical signal;  
and, a bi-directional WDM-ADM for interleaving the channels of an optical signal received  
from the first transceiver and the channels of an optical signal received from a second  
transceiver, for adding/dropping the interleaved optical signals according to channels, for de-  
interleaving the added/dropped optical signals into a first optical signal and a second optical  
10 signal, and for providing the first and the second optical signals to the first and second  
transceivers, respectively.